Amendments to the Claims:

Please amend the claims to read as follows:

1   1.   (Currently amended) A method for routing a packet comprising:

2   dedicating a separate routing table to each domain of a plurality of

3   domains for use in routing packets propagating that domain;

4   receiving the packet from one of a the plurality of domains through

5   one of a plurality of interfaces; and

6   determining one of a plurality of the routing tables for the packet

7   according to a mapping array, the mapping array including pointers that

8   associate the interfaces with the routing tables.

1   2.   (original) The method of claim 1 further comprising executing a single IP

2   stack to receive the packet and determine the one routing table.

1   3.   (original) The method of claim 1 wherein the mapping array associates

2   interfaces connecting to the same address domain with the same routing

3   table.

1   4.   (original) The method of claim 1 further comprising, after the one routing

2   table is determined, forwarding the packet according to the one routing

3   table if the packet is a data packet.

1   5.   (original) The method of claim 1 further comprising, after the one routing

2   table is determined, updating the one routing table if the packet is a

3   route update packet.

1   6.   (original) The method of claim 1 wherein each of the plurality of address

2   domains represents a virtual private network.

1   7.   (Currently amended) A router comprising:

2   <u>a plurality of separate routing tables, each routing table being</u>

3   <u>dedicated to one of a plurality of address domains for use in routing</u>

4   <u>packets propagating that address domain;</u>

5   interfaces through which packets from <u>the </u>address domains are

6   received; and

7   a domain manager, which includes a mapping array for

8   determining one of a ~~plurality of~~ <u>the </u>routing tables for the received

9   packets, the mapping array including pointers that associate the

10   interfaces with the routing tables.

1   8.   (original)   The router of claim 7 wherein the domain manager executes

2   a single IP stack to receive the packet and determine the one routing

3   table.

1   9.   (original)   A router of claim 7 wherein the mapping array associates

2   interfaces connecting to the same address domain with the same routing

3   table.

1   10.   (original)   The router of claim 7 wherein the domain manager forwards

2   the packet according to the determined one routing table if the packet is

3   a data packet.

1   11.   (original)   The router of claim 7 wherein the domain manager updates

2   the determined one routing table if the packet is a route update packet.

1   12.   (original)   The router of claim 7 wherein each of the plurality of address

2   domains represents a virtual private network.

1   13.   (original)   A computer program product residing on a computer

2   readable medium comprising instructions for causing the computer to:

3   dedicate a separate routing table to each domain of the plurality of

4   domains for use in routing packets propagating that domain;

5   receive the packet from one of a plurality of address domains

6   through one of a plurality of interfaces; and

7   determine one of ~~a plurality of~~ the routing table_s for the packet

8   according to a mapping array, the mapping array including pointers that

9   associate the interfaces with the routing tables.

1 14. (original)   The computer program product of claim 13 further

2   comprising instructions for causing the computer to execute a single IP

3   stack to receive the packet and determine the one routing table.

1 15. (original)   The computer program product of claim 13 wherein the

2   mapping array associates interfaces connecting to the same address

3   domain with the same routing table.

1 16. (original)   The computer program product of claim 13 further

2   comprising instructions for causing the computer to, after the one

3   routing table is determined, forward the packet according to the one

4   routing table if the packet is a data packet.

1 17. (original)   The computer program product of claim 13 further

2   comprising instructions for causing the computer to, after the one

3   routing table is determined, update the one routing table if the packet is

4   a route update packet.

1 18. (original)   The computer program product of 13 wherein each of the

2   plurality of address domains represents a virtual private network.

1 19. (new) A method for routing a packet, comprising:

2 dedicating a separate routing table to each address domain of a

3 plurality of address domains;

4 connecting at least one interface to each address domain of the

5 plurality of address domains;

6 associating each interface with one of the separate routing tables;

7 receiving the packet from a given one of the plurality of address

8 domains through a given one of the plurality of interfaces; and

9 associating the packet with the given interface through which the

10 packet is received; and

11 selecting one of the separate routing tables for routing the packet

12 based on the given interface with which the packet is associated.

1 20. (new) The method of claim 19, wherein the step of associating the packet

2 with the given interface includes inserting an identifier of the given

3 interface into the packet.